CDA-CAP
No. 4, Jifeng Road, Wufeng District, Taichung City, Taiwan
Tel: +00852-51245060 E-mail: zfw@cda-cap.tw
www.cda-cap.com

Precautions for handling manganese lithium secondary batteries (ML series)

When using manganese lithium secondary batteries, be sure to observe the following safety precautions.

1. Charging voltage range

When using the constant voltage charging method, pay attention to the specified value of the charging voltage.

• When the operating temperature range is -20℃ to 60℃, the specified (guaranteed) value is 2.80V~3.20V (actual capacity is 2.70~3.30V).

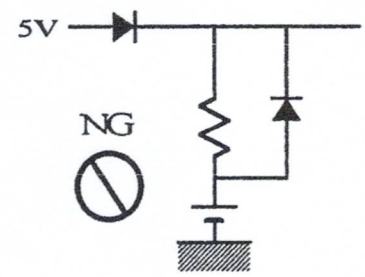
When the charging voltage exceeds the upper limit specified value, the internal resistance of the battery may increase, causing premature aging, which may shorten the battery life. At nearly 4V, the positive electrode (casing) may corrode and cause battery leakage.

When the charging voltage is lower than the lower limit, 100% of the battery capacity cannot be restored.

•When using the constant current charging method, be sure to adhere to the specified charging current and design a circuit in which the battery charging voltage never exceeds the allowable limit.

2. Trickle Charge

Avoid using trickle chargers designed for charging NiCad batteries, as shown in the figure to the right. This type of battery charger has a peak charge voltage of up to 5V and may shorten battery life.



3. Batteries connected in series

Before connecting multiple batteries in series, please be sure to consult us first.

4. Improper alignment of (+) and (-) terminals

Terminals (sealing plates) can corrode, leading to battery leakage and possible equipment damage.

5. Mixing of different batteries

Do not use lithium primary batteries with any other secondary batteries, or use old and new batteries of the same type together. Differences in voltage and capacity may cause battery performance degradation, which may cause damage to the device.

6. Soldering

Direct soldering of cells may damage resin materials such as gaskets and/or separators due to heat, leading to leakage and/or explosion. Wave soldering or conventional dip soldering is feasible, but reflow soldering is still not feasible.

7. Others

Never throw the battery into fire, expose it to heat exceeding 100°C, or attempt to disassemble the battery, as this is extremely dangerous.

For more detailed information, please contact CDA Division Engineering Department.

Date:2024-10-10